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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,155	06/30/2005	Hajime Okutsu	273948US0PCT	7811
22850 7590 02/17/2011 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER PIERY, MICHAEL T				
ART UNIT 1742		PAPER NUMBER		
NOTIFICATION DATE 02/17/2011		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/541,155

Applicant(s)

OKUTSU ET AL.

Examiner

MICHAEL T. PIERY

Art Unit

1742

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 April 2010 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ida (US 4,839,125) in view of Watras (US 2001/0044016) and Arakawa et al. (US 6,635,897).

Regarding claim 6, Ida teaches producing a plate polymer from a polymerizable material containing methyl methacrylate (column 2, lines 15-17), using an apparatus having two endless belts, continuous gaskets and three or more roll pairs (figure 1), a heating zone for solidifying the polymerizable material with a D/X ratio between 0.30 and 0.99 (column 6, lines 21-45). Ida teaches the rollers are spaced by 200 mm and the diameters are 90 mm so the distance between the axes (X) is either 200 or 290 (2 radii plus the distance between), either of which place D/X in the claimed range. Ida teaches the width of the belt is 800 mm and the diameter of the rolls is 90 mm (column 6, lines 22 and 32). The examiner interprets the width of the roll body portion is not substantially greater than the width of the belt, therefore the D/Z ratio is greater than 0.04. Alternatively, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine the desired width of the roll body portion because the roll body width needs to be optimized to be at least as wide as the belt but not too wide to incur unnecessary material costs. It has been held that optimization of a working variable is within routine skill of one in the art (MPEP 2144.05). Ida does not explicitly teach a laser beam emitter. Watras, however, teaches monitoring and regulating dimensions in a two-belt continuous molding process using a laser emitting device (paragraph 0026) where the laser ray is emitted from the laser beam emitter along the belt running direction (figure 1, #129). It would have been obvious

to one of ordinary skill in the art at the time of the invention to modify the process of Ida to include a laser monitoring device because the device provides automated adjustments to the process based on detected variations from ideal dimensions (paragraph 0026). Ida does not explicitly teach reflecting the laser orthogonally across the belt-running direction and detecting via gaskets to confirm gasket reaching positions of the polymerizable raw material. Arkawa teaches it is known to during laser monitoring to reflect the laser orthogonally across the belt running direction to determine the position of the raw material (figure 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Ida to use the orthogonally reflecting step of Arkawa because Arkawa teaches reflecting in the orthogonal direction is a suitable laser monitoring step and it has been held that selection of a known processing step (orthogonal reflection) based on its art recognized suitability for its intended purpose (laser monitoring) is prima facie obvious (MPEP 2144.07).

Regarding claim 8, Ida teaches employing at both sides of the endless belt to regulate the spreading of the raw material (column 5, lines 13-16) does not explicitly teach a laser beam emitter the sides of the belt and reflecting the laser to regulate the variation width. Watras, however, teaches monitoring and regulating dimensions in a two-belt continuous molding process using a laser emitting device (paragraph 0026) where the laser ray is emitted from the laser beam emitter along the belt running direction (figure 1, #129). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Ida to include a laser monitoring device because the device provides automated adjustments to the process based on detected variations from ideal dimensions (paragraph 0026). It would have been obvious to one of ordinary skill in the art at the time of the invention to apply this teaching

(detecting and adjusting) to the width of the material because, similar to the height dimension, it is desirable that the width dimension is constant. In other words, it would have been obvious to use the height dimension control means to control the width dimension. Ida does not explicitly teach reflecting the laser orthogonally across the belt-running direction and detecting via gaskets to confirm gasket reaching positions of the polymerizable raw material. Arkawa teaches it is known to during laser monitoring to reflect the laser orthogonally across the belt running direction to determine the position of the raw material (figure 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Ida to use the orthogonally reflecting step of Arkawa because Arkawa teaches reflecting in the orthogonal direction is a suitable laser monitoring step and it has been held that selection of a known processing step (orthogonal reflection) based on its art recognized suitability for its intended purpose (laser monitoring) is prima facie obvious (MPEP 2144.07).

Response to Arguments

Applicant's arguments filed 13 April 2010 have been fully considered but they are not persuasive.

Applicant's arguments regarding Nishi's one-belt system have been considered but are moot.

Applicant argues that because Ida uses gaskets on the sides, it is unnecessary to measure the width of the plate during the polymerization process. The examiner disagrees. The existence of gaskets demonstrates the desirability of precision in the width direction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL T. PIERY whose telephone number is (571)270-5047. The examiner can normally be reached on M-Th 8:30-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael T Piery/
Examiner, Art Unit 1742

/Monica A Huson/
Primary Examiner, Art Unit 1742